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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,598	05/02/2001	Harvey Koselka	PREROB.003A	7149

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EXAMINER

MILLER, PATRICK L

ART UNIT PAPER NUMBER

2837

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/847,598

Applicant(s)

KOSELKA ET AL.

Examiner

Patrick Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5,6,9,12,17,18,23,24,28-31,33-39,41,42,44-51 and 54-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6,9,12,18,23,24,28-31,33-39,41,42,44-48 and 57-59 is/are allowed.
- 6) ☒ Claim(s) 17,49-51,54-56 and 61 is/are rejected.
- 7) ☒ Claim(s) 60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed on 06/30/03 and with respect to claims 17 and 49 have been fully considered but they are not persuasive.
  - Claim 17: With respect to the Applicant's arguments on page 12 (first paragraph), the Examiner respectfully disagrees. The arguments do not address the structural limitations of claim 17. Claim 17 discloses a moistened roll of webbing encased in a watertight compartment. The combination of Bierma and Bartsch et al *do* disclose this feature, including the moistened webbing (pg. 3, lines 21-26 of Bierma). The motivation for providing an apparatus as described is to prevent external moisture from entering the apparatus. This motivation, while different to the Applicant's motivation for providing a watertight compartment, is sufficient to render the Applicant's claim obvious.
  - Claim 49: With respect to the Applicant's arguments on page 12 (fourth and fifth paragraphs, respectively) the Examiner respectfully disagrees. Nakanishi et al disclose a control unit that has ROM and RAM, which store programs. The programs control instruction signals sent to the robot. Additionally, the control unit *does* sense the movement of the floor-mopping machine by the wireless communication, thereby tracking the mobile robot's location (col. 5, lines 15-54). The Examiner has interpreted the use of a program stored in ROM and sensing robot position as autonomous control, since a user is not controlling the robot while the program is operating, but merely initiating a specific program.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma

(WO 91/11134) in view of Kinto (6,142,252) and Bartsch et al (6,459,955).

- Bierma discloses a floor mopping assembly, comprising: a first roller that lets out a moistened web on a roll (Fig. 1, #1; see description about wet cleaning on pg. 3, lines 21-26), a second roller that reels in the web (Fig. 1, #2), a motor system that operates the rollers to transfer the web (Fig. 1, #1), and the components are conveyed on the chassis (Fig. 1, #11).
- Bierma does not disclose a computerized chassis and the roll of webbing encased in a watertight compartment.
- Kinto discloses a travel unit CPU (processor) that is onboard the vehicle (chassis) (Col. 10, lines 29-49). Kinto's motivation for using a travel unit CPU to control a drive motor that drives the vehicle is to centralize overall control of the mobile unit (Fig. 1, #10). This has the advantage improving efficiency since the CPU receives all measured values from each control unit (e.g. motor control unit and chassis rotation control unit) and singly responsible for processing data and controlling vehicle movement.
- Bartsch et al disclose a cleaning apparatus where the entire apparatus is waterproof (watertight). Bartsch et al make the entire cover waterproof (Fig. 1, #10) (entire cover

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would encase the roll of web, since only one compartment is claimed), which has the advantage of protecting the internal components of the apparatus from liquids and hazardous chemicals (Col. 28, lines 1-6), thereby preventing internal corrosion.

- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma could be modified with a waterproof (watertight) cover that encases the components of the apparatus (including the roll of web), providing the advantage of preventing internal corrosion, as taught by Bartsch et al. Further, it would have been obvious to one having ordinary skill in the art at the time of the invention that the floor mopping assembly of Bierma could be modified by making the chassis computerized (including a processor to control the motor system) and one drive motor configured controlled by the CPU (without human intervention) to provide mobility, which has the advantage of improving system efficiency, as taught by Kinto.
  - With respect to claim 61, Bierma discloses the watertight compartment having a seal. More specifically, the Examiner has interpreted from Figure 1, that a seal exists between the cap, #15 and #14 at #13. Although this seal is not disclosed as being waterproof, the seal would to some degree prevent the webbing from drying out. As opposed to the webbing being directly exposed to circulating air or wind.
3. Claims 49-51, 54, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma (WO 91/11134) in view of Nakanishi et al (5,959,423).
- With respect to claims 49 and 51, Bierma discloses a method of mopping a surface with a floor mopping device, the method comprising: connecting a roll of webbing on a feed

roller to a take-up roller, pressing a portion of the webbing so the webbing cleans a surface (Fig. 1, #8), and a motor that transfers the portion of the webbing to the take-up roller (fig. 1, #1 transfers the webbing) (pg. 4, liens 26-29).

- Bierma does not disclose transmitting control signals from an autonomous master controller to control the floor mopping apparatus, moving the floor mopping apparatus based on the control signals, and sensing the movement of the floor mopping device and tracking the location of said device.
- Nakanishi et al disclose a mobile robot that cleans floors (Abstract) (claims 28, 29, 39, and 48) and a communication unit and control unit onboard a mobile cleaning apparatus (Fig. 1, #'s 13, 14). The communication and control units are provided on a mobile cleaning unit so a master controller (that works from a program, or autonomously) (Col. 4, lines 6-18) can receive signals from the mobile robot representing the movement of the mobile robot. This provides the advantage of allowing the master controller to accurately control the mobile robot's position (col. 5, lines 31-54).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the cleaning unit of Bierma with communication and control units so the cleaning unit can be controlled by a master controller based on sensed movement of the mobile robot, thereby accurately controlling the mobile robot without human supervision, as taught by Nakanishi et al.
- With respect to claim 50, Bierma and Nakanishi et al do not explicitly state the cleaning process should be repeated until the entire floor surface is mopped; however, one having ordinary skill in the art would recognize that in order to properly clean the entire surface,

the disclosed process must be repeated. Repeating the cleaning steps have the advantage of ensuring the unclean portion of floor is cleaned with a clean webbing portion.

- With respect to claim 54, Bierma discloses the method of moistening the webbing prior to pressing (pg. 3, lines 32-34).
  - With respect to claim 55, Bierma discloses the method of applying a cleaning agent to the webbing (pg. 3, lines 29-31).
4. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bierma and Nakanishi et al as applied to claim 49 above, and further in view of Silvenis (5,092,699).
- Bierma and Nakanishi et al teach all of the limitations of claim 49 above, but with respect to claim 56, do not disclose applying a wax to the webbing.
  - Silvenis discloses a floor cleaning apparatus where wax is applied directly to a fabric (webbing) (Fig. 3, #22) (Col. 2, lines 46-52). Silvenis's motivation for applying wax to the fabric is apply a coat of wax to the floor. Applying wax to the fabric (webbing) has the advantage of not wasting wax by inaccurate spraying, as sometimes occurs when using a separate or elevated wax application.
  - Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the cleaning apparatus of Bierma and Nakanishi et al
  - + so that wax can be applied to the webbing, which has the advantage of not wasting wax, as taught by Silvenis.

*Allowable Subject Matter*

5. Claims 5, 6, 9, 12, 18, 23, 24, 28-31, 33-39, 41, 42, 44-48, and 57-59 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:
  - With respect to claims 5 and 6, the primary reason for allowance is because the Prior Art discloses a floor mopping apparatus where it would be obvious for the apparatus to be an autonomous cleaning robot and where a soiled portion of a web is disposed to a “take-up” roller; however, the Prior Art does not disclose offloading the web after it has been soiled.
  - With respect to claim 9, Bartsch et al. (6,459,955) disclose a floor mopping assembly where the entire contents are encased by a watertight compartment; however, Bartsch et al. does not disclose a housing that houses the contents of a mopping apparatus including a watertight case that houses a roll of web.
  - With respect to claims 12 and 18, the primary reason for allowance is because the Prior Art discloses a floor mopping assembly where the roll of web is disposable, but not where the roll of web is *encased* in a disposable assembly.
  - With respect to claims 23 and 58, the primary reason for allowance is because the Prior Art does not disclose the method of mopping the floor without human intervention that transfers a portion of a webbing once it has been determined that the webbing is soiled.
  - With respect to claims 24 and 59, the primary reason for allowance is because the Prior Art does not disclose the method of mopping a floor without human intervention, that transfers a portion of a webbing once it has been determined that the mopping device has cleaned a predetermined area of the surface.



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- With respect to claims 28, 39, and 43, the primary reason for allowance is because the Prior Art does not disclose an autonomous *mobile* robot being a master controller that controls cleaning units.
  - With respect to claim 48, the primary reason for allowance is because the Prior Art does not disclose the control means capable of autonomously navigating.
  - With respect to claim 57, the primary reason for allowance is because the Prior Art discloses a cleaning apparatus with rollers that rest on the surface.
7. Claim 60 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- With respect to claim 60, the primary reason for allowance is because the Prior Art discloses a cleaning apparatus with rollers that rest on the surface.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 703-308-4931. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Patrick Miller  
Examiner  
Art Unit 2837

pm  
September 16, 2003

  
**ROBERT NAPPI**  
**SUPERVISORY PATENT EXAMINER**